Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of:	)	
	)	
AMENDMENT OF PART 97 OF THE	) RM-10867	American Radio Relay
COMMISSIONS RULES GOVERNING	)	League (ARRL)
THE AMATEUR RADIO SERVCE TO	) RM-10868	Radio Amateur Federation
IMPLEMENT CHANGES TO ARTICLE	)	(RAF)
25 OF THE INTERNATIONAL RADIO	) RM-10869	Ronald Lowrance
REGULATIONS ADOPTED AT THE 2003	) RM-10870	National Conference of
WORLD RADIOCOMMUNICATION	)	Volunteer Exam
CONFERENCE	)	Coordinators (NCVE)

TO: The Chief, Wireless Telecommunications Bureau

COMMENTS OF MITCHELL STERN, W1SJ

I. Commenter's Background

1. This commenter has been licensed 35 years and holds an Amateur Extra Class license and General Radio Operator License with Radar Endorsement. The commenter is very active in teaching and promoting amateur radio, in contesting, DXing, VHF weak signal operations and public service communications.

2. This commenter has actively taught amateur radio for 22 years. In the last 10 years, under the current licensing system, the commenter has taught and licensed 600 students in 1-2 day classes in rural Vermont and New Hampshire. In the course of promoting these classes and amateur radio, thousands of people have been spoken to about amateur radio.

3. The commenter is one of the longest continuous serving Volunteer Examiners, having given exams for all of the 20 years there has been a Volunteer Exam program. The number of examined candidates has numbered in the hundreds, not counting students who were examined by other Volunteer examiners.

4. The commenter is an electrical engineer and has focused on teaching and training of technical subjects such as Electronics, Electrical Wiring, Commercial Radio, Physics, Computers and Mathematics for college and adult students.

5. This commenter's long background in ham radio, particularly in the areas of teaching and testing has afforded a unique insight into the amateur radio testing program over these many years.

II. Spurring Growth in Amateur Radio

6. All of the Petitioners mention that changes are needed to spur growth in amateur radio. The commenter agrees that growth is needed. However, there is not a shred of evidence that indicates that any meaningful growth will come out of modifying the amateur radio license structure. Based on thousands of discussions over the years, the reasons most people give for not pursuing amateur radio are: lack of time, lack of money and lack of interest. This commenter cannot ever recall anyone stating, directly or indirectly, that the exams were too difficult. The lack of growth in amateur radio is driven by forces beyond our ability to control.

III. The Morse Code Question

7. The commenter agrees with the ARRL and NCVEC that the Morse code requirement for the General Class license is no longer in the best interest of amateur radio. Many students have complained that, although they have a genuine desire to upgrade to a higher class, Morse code remains a deterrent. It has been demonstrated that knowledge of Morse code does not necessarily make one a good operator, nor does not knowing Morse code make one a poor operator.

8. Morse code is and continues to be an essential tool of weak signal communication. Amateur operators engage in more weak signal communication than any other service and we would be remiss to simply dismiss Morse code as archaic or unneeded. While it is true that other narrow-band, digital forms of communications (such as PSK-31 for one) have become popular, none of them approach the popularity and effectiveness of Morse code telegraphy. Major CW contests regularly have thousands of logs submitted. Clearly, there is widespread use and acceptance of this mode.

9. While Morse code still commands a large following in amateur radio, it is unreasonable to require beginner and intermediate licensees to demonstrate ability in this mode.

10. The remaining issue is whether to require Morse code for the highest class of license, Amateur Extra. Following the suggestions of the NCVEC, an argument can be made to drop Morse code requirements altogether. This would eliminate one exam element and the logistics associated with administering it. On the other hand, the Amateur Extra operator is the highest level of amateur radio license and with that responsibility, we look to the Amateur Extra operator to be knowledgeable in all amateur radio techniques. As stated in paragraph 8, Morse code still remains an essential tool. It would not be unreasonable to require the highest level of amateur radio operator to demonstrate some small level of ability with this important tool. In this setting, Morse code would not be a deterrent, since General Class operators would not be required to know Morse code and would have operating privileges in wide portions of the High frequency spectrum.

IV. The Entry Level License – Is HF Access Important?

11. Petitioners ARRL and NCVEC and a number of commenters have stated that the Technician Class license is unsuitable as an entry level license. The ARRL states, *"it offers operating privileges principally limited to the VHF bands and above, leaves newcomers to the Amateur Service in an isolated position of conducting only local, rather*

than worldwide, communications, and thus provides very little encouragement to progress and develop technical and operating skills". Nothing can be further from the truth. More than half the students this commenter has interacted with have no desire to engage in worldwide communications. These students have specific communication interests, such as public service, search and rescue, hang gliding support, and other local tactical communications. Many students live in housing situations where the installation of any type of HF antenna is impossible. Most active Technician operators are not isolated, but are, in fact, in the forefront of activity in their respective areas. Not being on HF does not mean one is less of an amateur operator.

12. Advances in technology and other factors have made it practical for the Technician operator to conduct long range and worldwide communications on a regular basis. First, the Six meter band opens up with Sporadic E skip each spring and fall. Many, many Technicians avail themselves of long range communications during these periods. Amateur satellites provide predictable communications over thousands of miles. Some of these satellites, such as the former AO-27 and UO-14 allowed Technicians, using simple hand held transceivers, to communicate regularly over long distances. This commenter has personally contacted many Technician operators on this mode. Finally, Internet linking via repeaters and simplex remote bases has become widespread in the last few years. Technicians communicate all over the globe from our local repeater using well known protocols such as IRLP and Echolink. To say that Technicians are isolated on VHF is simply incorrect.

13. Many Technician operators have upgraded to higher classes of license. Sadly, many who desire to upgrade have not, due to a perceived problem with learning the Morse code. The proposal to eliminate the Morse code requirement for the General Class license, covered in paragraph 7, will address this issue completely.

14. Other commenters have stated that the Technician license was never meant to be an entry level license. That was true years ago. However, since 1991, the Technician license has indeed, been the entry level license for amateur radio and has been wildly successful.

The growth of amateur radio during the 1990's was outstanding. The Technician Class license has been an excellent entry level license. The RAF, in their petition, notes the success of the entry level Technician Class license and this commenter agrees that the Technician Class license should be retained as the entry level in lieu of trying to develop a new class of license.

15. HF is NOT the best place for entry level amateur radio operators to be. HF operation is far more complicated and difficult than channelized VHF repeater operation. The HF bands, particularly the phone segments, are very crowded. The RAF, in their petition, cites 80 and 40 meter phone as being too crowded. One could similarly make the argument that 20 meters, and 15 meters (when there is propagation) are also very crowded bands. There are many more opportunities to cause harmful interference to existing operations on the HF bands.

16. The ARRL and NCVEC mention the success of the original Novice license in bringing new people into amateur radio. Originally, the Novice license was a 1-year (later 2 years) non-renewable license. Most Novice licensees never upgraded to General Class. Amateur radio census numbers were inflated each year by a large number of transient amateur operators who passed through before having their licenses expire.

17. As an original Novice class licensee, it was very, very hard to make reliable contacts. Low power, poor conditions, poor antennas and inexpensive equipment conspired to make for a frustrating time. These setbacks were taken in stride, but a very strong goal towards upgrading to a higher class license kept this commenter and other amateurs of the day on track. It will not be a good thing to put newcomers into this often frustrating situation.

18. The comments in paragraph 15 notwithstanding; there are already Technician Class operators with access to small segments of the HF spectrum. Technicians who have passed the 5 word per minute Morse code exam have access to the original Novice HF frequencies. The overwhelming majority of these operators use the phone privileges

granted on 10 meters as opposed to the CW privileges granted on 80, 40 and 15 meters. Continued access to ten meters would be an excellent feature of an entry level license. Ten meters is the widest of the amateur HF bands, with adequate room for everyone. Depending on time and location, the ten meter band, at times, exhibits short range tendencies of VHF spectrum and long range tendencies of worldwide HF spectrum. It is an excellent band for operator training and provides tremendous incentive for upgrade to the other HF bands. Virtually no change to the Technician syllabus would be required to justify entry level amateur access to this band.

V. The Current Technician License – Too Hard or Complicated?

19. Petitions from the ARRL and NCVEC make the claim that the current Technician question pool is too hard or too broad or too complicated a test. The ARRL states*, "…the entry level Technician Class license examination is… overly comprehensive in its subject matter and is therefore a deterrent to newcomers and inadequate as an entry-level license class."* The ARRL offers no data or any other proof to back up this claim. This commenter can state that in 10 years of teaching amateur radio students, ages 10-80, the pass rate has been consistently 95% and higher. Certainly, the number of questions or complexity of the material wasn't an issue for these students. In Volunteer Exam sessions, a pass rate of at least 60-70% on the Element 2 Technician test is the norm. However, upon speaking with the candidates who didn't pass this exam, it became apparent that their level of preparation and commitment was less than what one would term adequate. In some cases, the candidate didn't even acquire the widely available study materials and attempted the exam without any preparation whatsoever.

20. While the level of complexity and number of questions in the pool are adequate, this commenter strongly feels that the *Question Pool Committee* must be tasked to make modifications to the question pool so that all questions are relevant and are worded clearly. There are too many questions requiring rote memorization of operating frequencies, digital baud rates, RTTY frequency shifts and AMTOR operating modes, to

name a few. This information is widely available on charts and in books. Instead, questions should focus on *understanding* the frequency assignments and technical requirements. Relatively few Technician class operators use many of the digital modes and questions on very specific topics should be eliminated. The questions instead should focus on rules and procedures and basic radio communications and electronics theory.

21. A number of questions in all of the pools are either too wordy or confusing in what they ask. The problem with questions of this nature is that a candidate's reading ability is tested instead of his or her knowledge of amateur radio. These questions need to be modified in all of the pools.

22. Commenters, such as Gordon West, mention that the examining process needs to be changed because a number of candidates simply memorize the questions and answers. This commenter agrees with this assessment but cannot offer a better solution. When the Commission imposed the Question Pool system, it assumed that some candidates would memorize the pools and decided that this was acceptable. Historically, the Commission went to the Question Pool system because the exact questions on FCC examinations ended up being published. While an essay type exam would provide for a better test of knowledge, the complexity of scoring this type of examination is problematic, at best.

VI. Combining License Classes.

23. Two of the petitions address the need to create a separate entry level license. This would not serve amateur radio's best interests. It would add another license class, contrary to the goals of the FCC. To keep the number of license classes at 3 levels, existing classes of licenses would have to be combined, creating a problem of which classes ultimately get what privileges. The most expedient solution is to continue with the Technician class license as the entry level license. The question pool, privileges and structure already exist and they work well.

24. Commenters offer various combinations of combining license classes so that we end up with 3 classes of license. To date, amateur radio has not been asked to completely eliminate the closed Novice and Advanced class licenses. It is best to leave those alone since we could never come up with a completely fair and equitable way to "merge" these classes into existing classes. If we are to believe in the incentive licensing system, we must never let a licensee "upgrade" unless the equivalent exams are passed. To do otherwise would short-circuit the incentive system as amateurs could feel that they would upgrade without studying or examining. If there is such a desire to really simplify amateur radio, then perhaps there should only be one class of license. There is likely no widespread support for this concept.

25. The ARRL and NCVEC suggest that current Technician licensees be given General class privileges. This is a very bad idea. If this were done, it sends the message that working to upgrade is not needed. General class licensees had to pass two 35-question exams, one on HF theory and propagation. The current Technician class licensees have had very little testing on HF techniques. In particular Technician class licensees have not be tested on RF safety issues and frequency selection as they apply to HF operation.

26. The NCVEC suggests that the current Advanced class licensees be "upgraded" to Amateur Extra. This is also a bad idea for the reasons stated above. The closed Advanced class can be maintained and current Advance class licensees can always upgrade to amateur extra.

VII. Summary

27. The commenter proposes the following:

- Remove code requirement for all license classes except Amateur Extra. Retain 5 word per minute Morse code test for Amateur Extra.

- Technician Class: Give all Technician class operators the existing "Technician Plus" privileges on 10 meters. Make no changes in the scope of or number of questions in the Technician Class examinations.

- General Class: Remove Morse code requirement. Make no changes in privileges. Make no changes in the scope of or number of questions in the General Class examination

- Task the Question Pool Committee to thoroughly review all Technician exam questions with the goal of making each question more relevant to actual operating conditions of the modern day Technician Class operator. Review all amateur radio question pool questions with the goal of removing wordy and confusing questions.

- Maintain current Novice and Advanced class operators with no change.

Mitchell Stern, W1SJ
21 April, 2004